CLAIMS

1. An implantable fluid delivery system comprising:

an actuator;

a constant flow pump;

a primary fluid reservoir; and

a secondary fluid reservoir, wherein a manual manipulation of the actuator causes a delivery of a first dosage of a first fluid from the secondary fluid reservoir to a treatment site as the constant flow pump delivers a second dosage of the first fluid to the treatment site from the primary fluid reservoir.

2. The system of claim 1 wherein the second dosage of the first fluid is a basal flow dosage.

3. The system of claim 1 wherein the first dosage is a bolus dosage.

4. The system of claim 3 further comprising a working fluid reservoir, the working fluid reservoir and the secondary fluid reservoir operably coupled such that an increase in volume of one results in a decrease in volume of the other, and such that a decrease in volume of one results in an increase in volume of the other.

5. The system of claim 4 wherein the actuator is operably coupled to the working fluid reservoir such that manual squeezing of the working fluid from the actuator causes an increase in volume of the working fluid reservoir thereby delivering the first dosage of first fluid from the secondary fluid reservoir and such that a deactuation of the actuator causes a filling of the secondary fluid reservoir from the primary fluid reservoir.

6. The system of claim 4 wherein the working fluid reservoir and the secondary fluid reservoir are contained in a rigid housing, and their respective volumes are defined by a common flexible membrane.

7. The system of claim 1 wherein the first dosage is a bolus dosage and wherein the delivery of the bolus dosage of a certain volume causes the second dosage to be decreased by that volume.

8. The system of claim 7 wherein a continuous stimulation of the actuator results in a cumulative dosage which asymptotically approaches a time averaged fluid delivery rate.

9. The system of claim 1 wherein the first dosage is a supplemental flow dosage.

10. The system of claim 9 wherein the flow rate of the supplemental flow dosage is determined by employing one or more of the following: variable restrictors, viscosity of fluids, and establishment of a motivating pressure within the actuator.

11. The system of claim 9 further comprising a working fluid reservoir operably coupled to the secondary fluid reservoir such that both increase and decrease in volume together upon change in volume of either.

12. The system of claim 11 wherein the actuator is operably coupled to the working fluid reservoir such that manual squeezing of the working fluid from the actuator results in an increase in a volume of the working fluid reservoir thereby drawing the first fluid into the secondary fluid reservoir, and such that a deactuation of the actuator results in a delivery of the supplemental flow dosage of the first fluid from the secondary fluid reservoir.

13. The system of claim 11 wherein the working fluid reservoir and the secondary fluid reservoir are piston and cylinder devices.

14. The system of claim 1 wherein the actuator is selected from the group consisting of a compressible button and a bulb.

15. The system of claim 1 wherein the actuator comprises a magnetically activated switch.

16. The system of claim 1 wherein the implanted system does not incorporate an electric motor or an electric power supply.

17. The system of claim 1 wherein the secondary fluid reservoir draws the first fluid from the primary fluid reservoir.

18. A method comprising:

manually applying pressure to a working fluid contained in an actuator associated with an implantable pharmaceutical fluid delivery device, wherein the implantable pharmaceutical fluid delivery device comprises a first fluid reservoir and a second fluid reservoir, thereby causing a flow of the working fluid into the first fluid reservoir;

delivering to the treatment area a first dosage of pharmaceutical fluid from the second fluid reservoir, wherein the working fluid and the pharmaceutical fluid are different fluids; and

delivering to a treatment area a basal flow dosage of the pharmaceutical fluid from a constant flow pump as the first dosage is delivered, the constant flow pump associated with the implantable pharmaceutical fluid delivery device.

19. The method of claim 18 wherein the constant flow pump does not comprise an electrical motor or electrical power supply.

20. The method of claim 18 wherein the first dosage is a bolus dosage.

21. The method of claim 18 further comprising drawing working fluid from the first fluid reservoir into the actuator.

22. The method of claim 21 wherein said drawing causes a filling of the second fluid reservoir with pharmaceutical fluid.

23. The method of claim 18 wherein the first dosage is a supplemental flow dosage.

24. The method of claim 23 wherein the delivering to the treatment area a first dosage comprises drawing the working fluid into the actuator from the first fluid reservoir thereby causing pharmaceutical fluid to be expelled from the second fluid reservoir.

25. The method of claim 18 wherein the first and second fluid reservoirs are piston and cylinder devices.

26. The method of claim 18 wherein the actuator is selected from the group consisting of a compressible button and a bulb.

27. A method comprising:

determining a rate and a volume of a dosage associated with a prescription to be delivered by an implantable drug delivery device, the delivery device comprising an actuator;

selecting a volume of a fluid to be moved by the actuator;

selecting a resistance associated with a flow path of the fluid; and

implementing in the system the volume and resistance such that the determined dosage rate and volume of the dosage are produced.

28. The method of claim 26 wherein the dosage is a bolus dosage.

29. The method of claim 26 wherein the dosage is a supplemental flow dosage.

30. The method of claim 26 wherein selecting a resistance comprises selecting a flow restrictor with a determined restriction.

31. The method of claim 26 wherein selecting a resistance comprises selecting a viscosity of the fluid.

32. The method of claim 26 wherein the implantable drug delivery device does not comprise an electric motor or an electric power supply.

33. An implantable infusate delivery system comprising:

a constant flow pump, the constant flow pump providing delivery of a first dosage of said infusate; and

an actuator in communication with an infusate output of said constant flow pump and delivering a second dosage of said infusate in response to stimulation of said actuator by a user.

34. The system of claim 32 wherein said constant flow pump comprises a spring diaphragm pump.

35. The system of claim 32, wherein said first dosage comprises a continuous flow dosage.

36. The system of claim 32, wherein said first dosage comprises a basal dosage.

37. The system of claim 32, wherein said second dosage comprises a bolus dosage.

38. The system of claim 32, wherein said stimulation of said actuator by a user comprises manual stimulation of a portion of said actuator implanted within a living body.

39. The system of claim 37, wherein said actuator comprises a compressible button.

40. The system of claim 37, wherein said actuator comprises a compressible bulb.

41. The system of claim 32, wherein said actuator comprises a magnetically activated switch.

42. The system of claim 32, wherein said actuator comprises:
a plurality of adjustable volume fluid reservoirs.

43. The system of claim 41, wherein said plurality of fluid reservoirs include a first fluid reservoir and a second fluid reservoir, said first and second fluid reservoirs operably coupled such that an increase in volume in one results in a decrease in volume of the other.

44. The system of claim 41, wherein said plurality of fluid reservoirs include a first fluid reservoir and a second fluid reservoir, said first and second fluid reservoirs operably coupled such that an increase in volume of one results in an increase in volume of the other.

45. The system of claim 41, wherein said actuator comprises:
a working fluid, said working fluid being disposed in a first fluid reservoir and being responsive to said stimulation by said user to result in delivering a second dosage of said infusate.

46. The system of claim 41, wherein at least one of said adjustable volume fluid reservoirs comprises a piston configuration.

47. The system of claim 41, wherein at least one of said adjustable volume fluid reservoirs comprises a resilient membrane configuration.

48. The system of claim 32, wherein said stimulation of said actuator results in a cumulative dosage which asymptotically approaches a predetermined time averaged fluid delivery rate.